

DENON

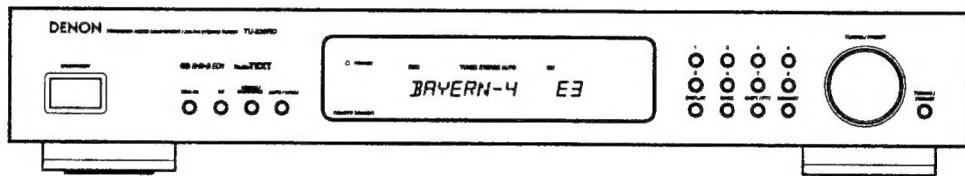
Hi-Fi AM-FM Stereo Tuner

SERVICE MANUAL

MODEL TU-235RD

MODEL TU-260LII

AM-FM STEREO TUNER



The illustration shows the TU-235RD.

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● Some illustrations using in this service manual are slightly different from the actual set.

NIPPON COLUMBIA CO., LTD.

SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 millamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is defective.

SPECIFICATIONS

● FM SECTION

| | |
|---|---|
| Frequency Range | 87.5 MHz – 108.0 MHz |
| Antenna Terminals | 75 Ω / ohms Unbalanced |
| Usable Sensitivity | 0.9 μV (10.3 dBf) 1.2 μV (IHF) |
| S/N 50 dB Sensitivity | |
| Monaural | 1.6 μV (15.3 dBf) |
| stereo | 20 μV (37.2 dBf) |
| (μV is at 75 Ω / ohms 0 dBf = 10 ⁻¹⁵ W) | |
| Image Interference Ratio | 80 dB |
| IF Interference Ratio | 100 dB |
| AM Suppression Ratio | 50 dB |
| Effective Selectivity | 70 dB (±400 kHz) |
| Capture Ratio | 1.5 dB |
| Frequency Characteristics | 20 Hz – 15 kHz ^{+0.5} _{-1.0} dB |
| Signal-to-noise Ratio | |
| Monaural | 82 dB (IHF) 78 dB (DIN) |
| stereo | 76 dB (IHF) 72 dB (DIN) |
| Total Harmonic Distortion | |
| Mono 1 kHz (at 75 kHz dev.) | 0.5 % |
| Stereo 1 kHz (at 67.5 kHz dev.) | 0.8 % |
| Stereo Separation 1 kHz | 40 dB |

● AM SECTION (MW and LW)

| | |
|-----------------------|---------------------------------|
| MEDIUM WAVE | |
| Frequency Range | 522 kHz - 1611 kHz |
| Antenna Terminals | Terminal Type with Loop Ant. |
| Usable Sensitivity | 18 μV |
| Signal-to-noise Ratio | 53 dB |
| LONG WAVE | (TU-260LII Only) |
| Frequency Range | 153 kHz - 279 kHz |
| Usable Sensitivity | 30 μV |
| Signal-to-noise Ratio | 50 dB |

● OTHERS

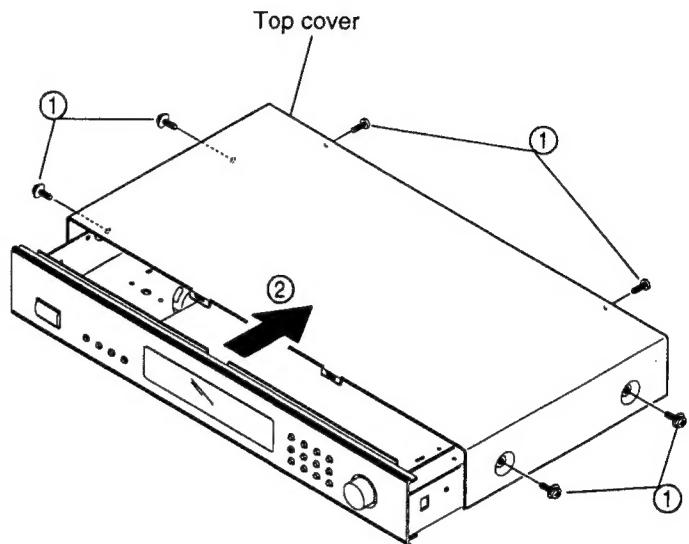
| | |
|----------------------------|-------------------|
| Power Supply | AC230 V 50Hz |
| Power Consumption | 9 W |
| Dimensions (W) x (H) x (D) | 434 x 75 x 239 mm |
| Net weight | 2.5 kg |

DISASSEMBLY

(Follow the procedure below in reverse order when reassembling)

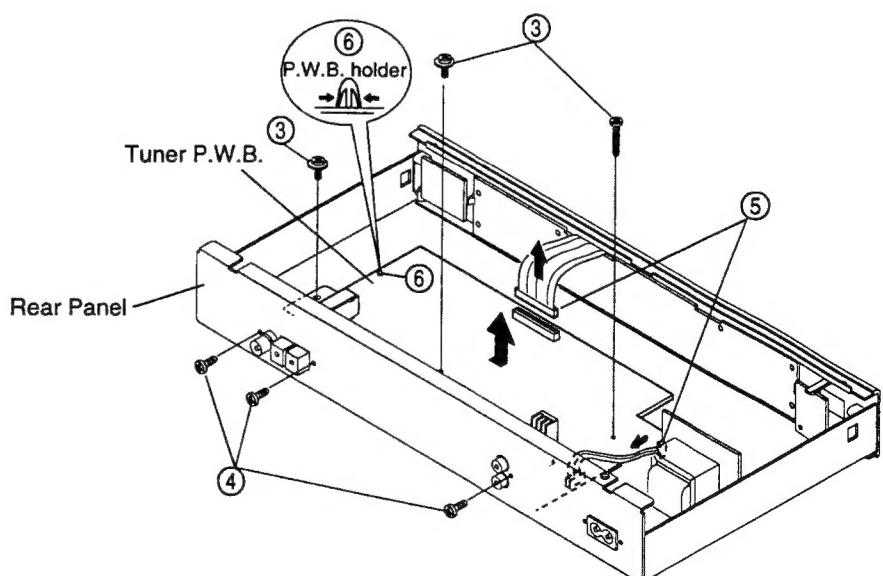
Top Cover

1. Remove 6 screws ① fixing the Top Cover.
(4 on both sides, 2 on the rear)
2. Detach the Top Cover, moving backwards a little and
lifting it as shown in the arrow direction.



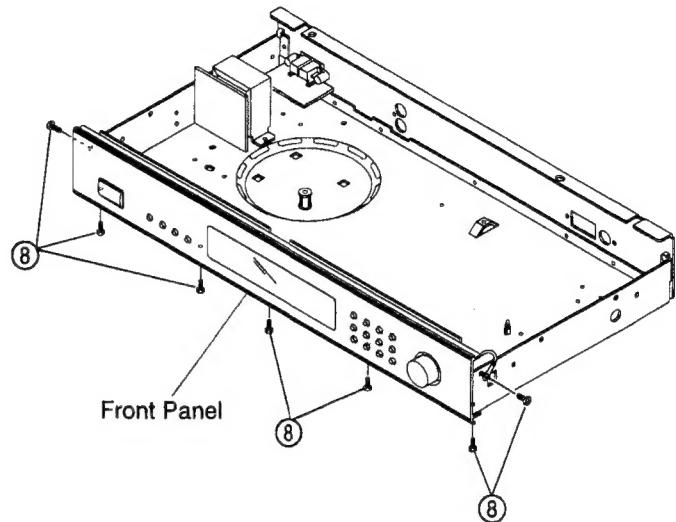
Tuner P.W.B.

1. Remove 3 screws ③ fixing the Tuner P.W.B.
2. Remove 3 screws ④ on the rear.
3. Disconnect 2 connectors ⑤.
4. Release the Tuner P.W.B. from P.W.B. holder ⑥.

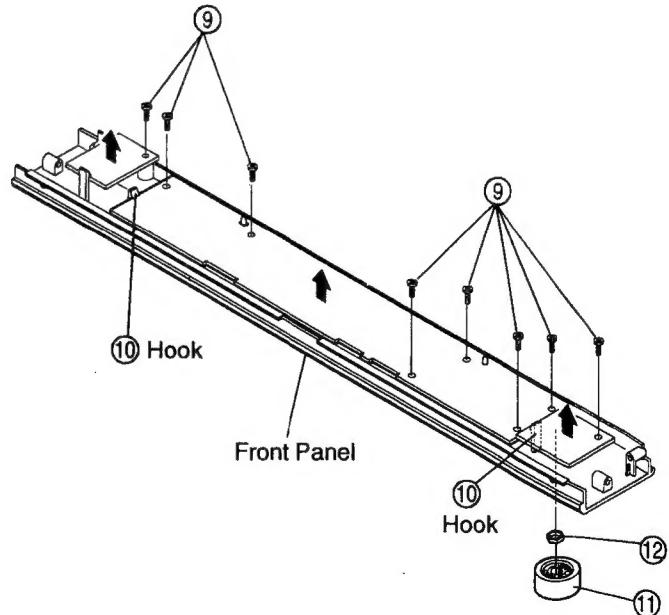


Front Panel

1. Remove 7 screws ⑧ fixing the Front Panel.
(2 on both sides, 5 on the bottom)



2. Remove 8 screws ⑨ fixing each P.W.B.
3. Detach the 1U-3139-2 P.W.B. from the Front Panel as shown in the arrow by releasing 2 hooks ⑩.
4. Detach the 1U-3139-3 and 1U-3139-4 P.W.B.s from the Front Panel as shown in the arrow, after pulling out tuning knob ⑪ and removing nut ⑫.



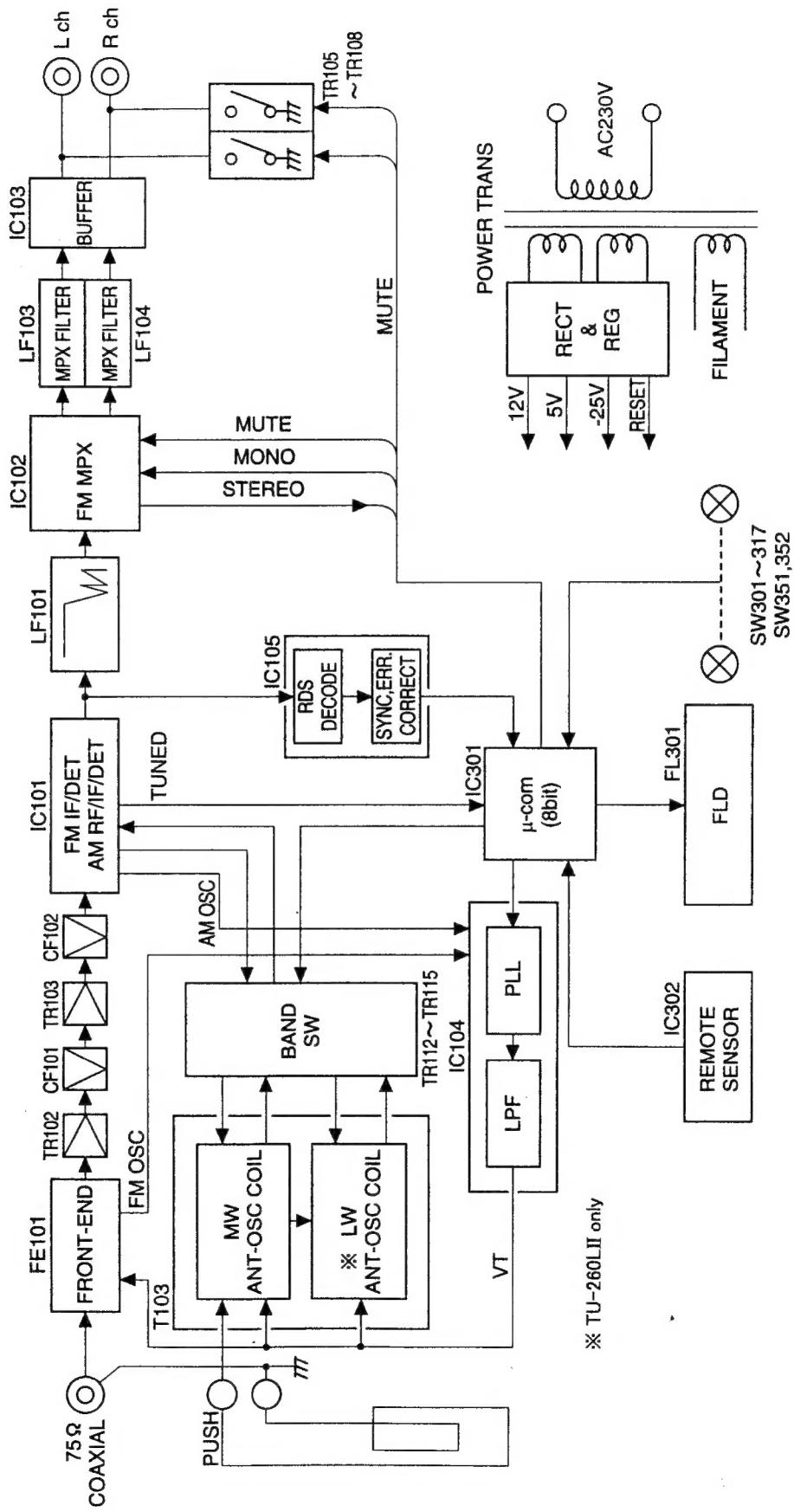
BLOCK DIAGRAM

4

3

2

1

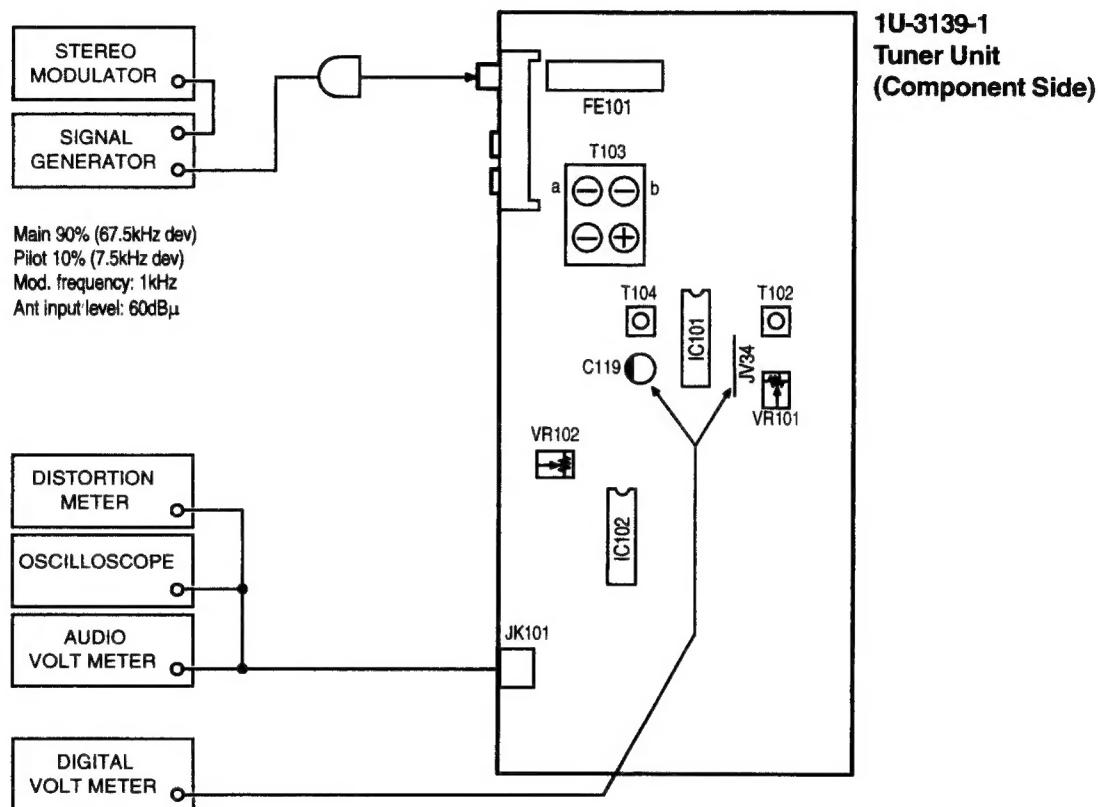


METHOD OF ADJUSTMENT

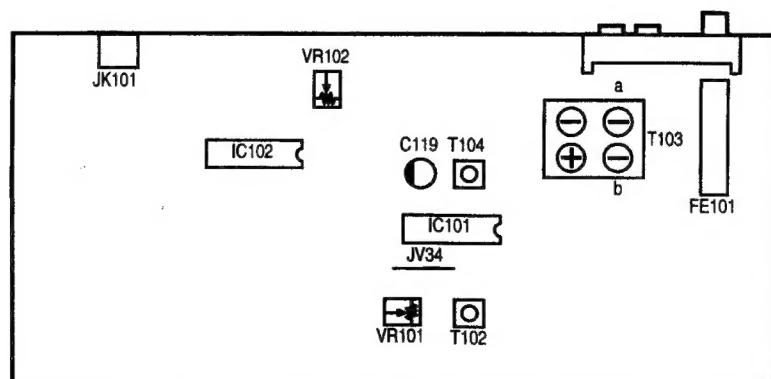
CONNECTION DIAGRAM OF MEASURING INSTRUMENTS

When making adjustments, be sure the power supply is at the rated voltage and the room air is on normal conditions with respect to temperature and humidity.

● FM



1U-3139-1 TUNER UNIT FM Alignment Points (Component Side)



Front Panel Side

FM ALIGNMENT

| Item | Alignment Item | Tuning Frequency Setting | Input | | | | | Output | | Adjustment | | Remarks |
|------|-------------------|--------------------------|-------|-----------|-------------|-----------------------|------------------|-------------------|---------------------|------------|---------------------------|---------|
| | | | Type | Frequency | Input Level | Modulation | Coupling | Type | Connect to | Points | Adjust to | |
| 1 | Center Adjustment | 98 MHz | FMSSG | 98 MHz | 60 dB μ | Mono 1 kHz 100% | Antenna Terminal | Digital Voltmeter | C119 PLUS And JV34 | T104 | ± 10 mV | |
| 2 | Separation | 98 MHz | FMSSG | 98 MHz | 60 dB μ | Stereo (L) 1 kHz 100% | Antenna Terminal | AC Voltmeter | Output Terminal (R) | VR102 | Maximum Separation | |
| 3 | Signal Level | 98 MHz | FMSSG | 98 MHz | 20 dB μ | off | Antenna Terminal | | | VR101 | Light TUNED on FL Display | |

AM ALIGNMENT

| Item | Alignment Item | Tuning Frequency Setting | Input | | | | | Output | | Adjustment | | Remarks |
|------|----------------|--------------------------|--------|-----------|-------------|------------|-----------------|--------------|---------------------|------------|----------------|----------------|
| | | | Type | Frequency | Input Level | Modulation | Coupling | Type | Connect to | Points | Adjust to | |
| 1 | IF Adjustment | 603 kHz | AM SSG | 603 kHz | * | 400 Hz 30% | AM Loop Antenna | AC Voltmeter | Output Terminal (L) | T102 | Maximum Output | |
| 2 | RF Adjustment | 1404 kHz | AM SSG | 1404 kHz | * | 400 Hz 30% | AM Loop Antenna | AC Voltmeter | Output Terminal (L) | T103-a | Maximum Output | |
| 3 | RF Adjustment | 270 kHz | AM SSG | 270 kHz | * | 400 Hz 30% | AM Loop Antenna | AC Voltmeter | Output Terminal (L) | T103-b | Maximum Output | TU-260LII Only |

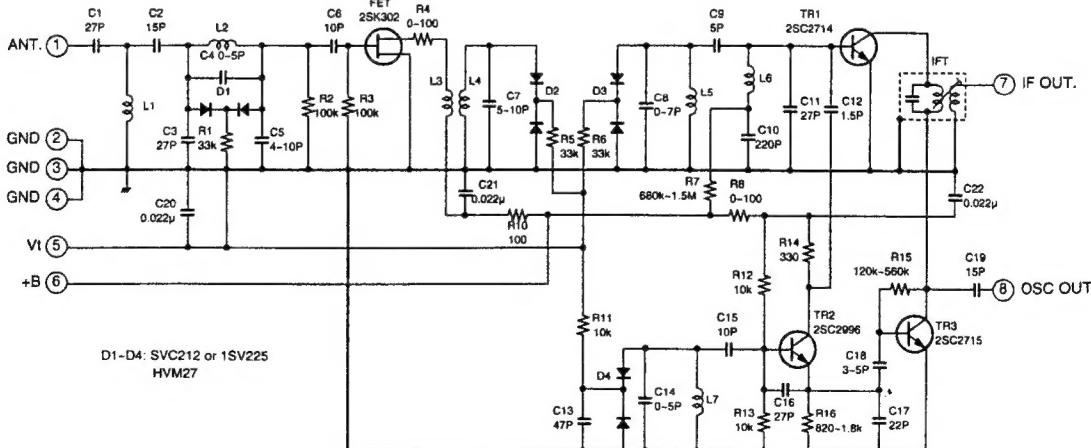
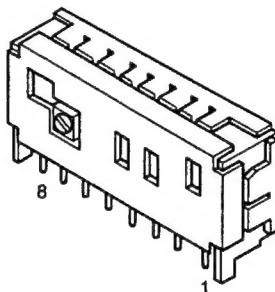
* The level at AGC is not activated.

Initializing (Memory clearing) Method

To clear memory contents of microcomputer and restore to the state of shipment at the factory, take the following step.
 • While pressing the Keys 1 and 7 of the front panel, insert power cord into the AC outlet.

FRONT END Parts No.: 216 9013 004

| No. | Name | No. | Name |
|-----|------|-----|---------|
| 1 | ANT | 5 | Vt |
| 2 | GND | 6 | +B |
| 3 | GND | 7 | IF OUT |
| 4 | GND | 8 | OSC OUT |



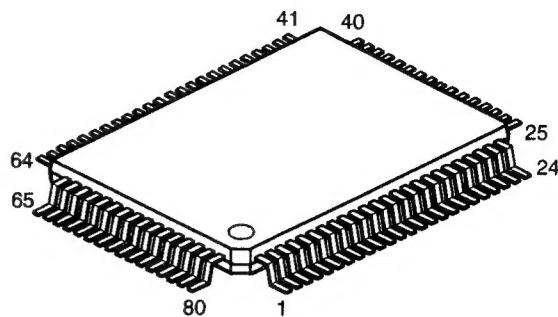
NOTES

1. TERMINAL NUMBER REFER TO OVERALL APPEARANCE.
2. RECEIVING FREQUENCY. 87.5-108 MHz.
3. INPUT IMPEDANCE. 75 ohm.
4. OUTPUT IMPEDANCE. 300 ohm.
5. SUPPLY VOLTAGE. +B 12 V.
6. TUNING VOLTAGE. Vt 1.2 min-9.0 max V.

SEMICONDUCTORS

● IC's

TMP87CM71F-6754 (IC301)

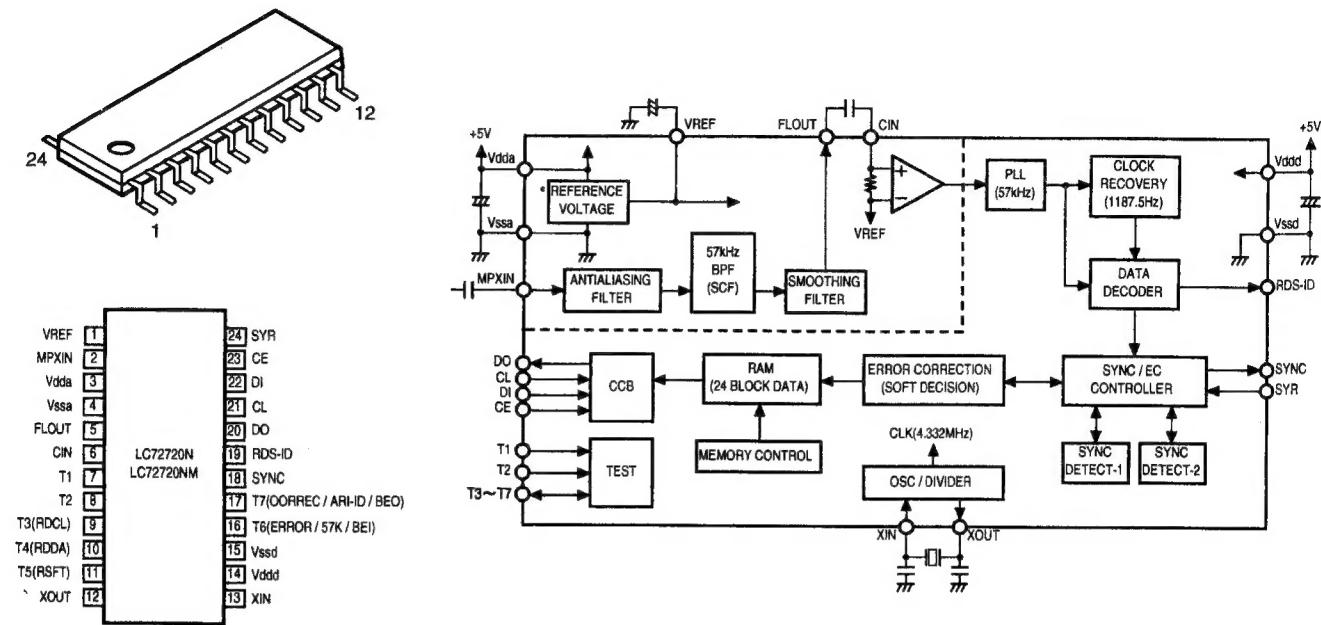


TMP87CM71F-6754 Terminal Function

| Pin No. | Port Name | Symbol | I/O | Typ | Op | Det | Res | Ini | Function |
|---------|-----------|--------------|-----|-----|-----|-----|-----|-----|---|
| 1 | P10/INT 0 | STOP | I | — | Eu | Lv | Z | — | Power down detection |
| 2 | P11/INT 1 | Not Used | I | — | GND | — | Z | — | Connected to GND |
| 3 | P12/INT 2 | Not Used | I | — | GND | — | Z | — | Connected to GND |
| 4 | P13/DVO | Not Used | I | — | GND | — | Z | — | Connected to GND |
| 5 | P14 | SELA | I | — | Eu | — | Z | — | Rot. Encoder input |
| 6 | P15/TC2 | SELB | I | — | Eu | — | Z | — | Rot. Encoder input |
| 7 | P16 | Not Used | I | — | GND | — | Z | — | Connected to GND |
| 8 | P17 | Not Used | I | — | GND | — | Z | — | Connected to GND |
| 9 | TEST | | I | — | GND | — | — | — | Connected to GND |
| 10 | P21/XTIN | TUNED | I | — | Eu | Lv | Z | — | Tuning detection (L: Tuned) |
| 11 | P22/XTO | Not Used | I | — | GND | — | Z | — | Connected to GND |
| 12 | RESET_ | | I | — | Eu | Lv | Z | — | Reset input |
| 13 | XIN | | — | — | — | — | — | — | Oscillation circuit (4MHz) |
| 14 | XOUT | | — | — | — | — | — | — | Oscillation circuit (4MHz) |
| 15 | Vss | GND | — | — | GND | — | — | — | Connected to GND |
| 16 | P20/INT 5 | Not Used | I | — | GND | — | Z | — | Connected to GND |
| 17 | P30/INT 3 | REMOTE | I | — | Eu | E&L | Z | — | Remote control signal input |
| 18 | P31/TC4 | STEREO | I | — | Eu | Lv | Z | — | When stereo receiving "L" |
| 19 | P32/SCK | Not Used | I | — | GND | — | Z | — | Connected to GND |
| 20 | P33/SI | Do | I | — | Eu | S | Z | — | RDS data input (data) |
| 21 | P34/SO | Not Used | I | — | GND | — | Z | — | Connected to GND |
| 22 | P35/HSCK | Not Used | I | — | GND | — | Z | — | Connected to GND |
| 23 | P36 | Not Used | I | N | GND | — | Z | — | Connected to GND |
| 24 | P37/HSO | STB | O | N | Eu | — | Z | H | LC72131/LC72720NM control output (latch) |
| 25 | P00 | DATA | O | C | — | — | Z | H | LC72131/LC72720NM control output (serial data) |
| 26 | P01 | CLK | O | C | — | — | Z | H | LC72131/LC72720NM control output (serial clock) |
| 27 | P02 | AUTO_ /MANU | O | C | — | — | Z | L | Auto/Manu control signal (L: Auto) |
| 28 | P03 | Not Used | I | — | GND | — | Z | — | Connected to GND |
| 29 | P04 | POWER ON/OFF | O | C | — | — | Z | H | Power relay control output (H: ON) |
| 30 | P05 | Not Used | O | C | — | — | Z | — | Connected to GND |
| 31 | P06 | Not Used | O | C | — | — | Z | — | Connected to GND |
| 32 | P07 | Not Used | O | C | — | — | Z | — | Connected to GND |
| 33 | Vdd | Vdd | — | — | — | — | — | — | Connected to +5V |
| 34 | P60 | Not Used | I | — | GND | — | Z | — | Connected to GND |
| 35 | P61 | Not Used | I | — | GND | — | Z | — | Connected to GND |
| 36 | P62 | G1 | O | P | Id | — | Z | — | FLD Grid control output |
| 37 | P63 | G2 | O | P | Id | — | Z | — | FLD Grid control output |
| 38 | P64 | G3 | O | P | Id | — | Z | — | FLD Grid control output |
| 39 | P65 | G4 | O | P | Id | — | Z | — | FLD Grid control output |
| 40 | P66 | G5 | O | P | Id | — | Z | — | FLD Grid control output |
| 41 | P67 | G6 | O | P | Id | — | Z | — | FLD Grid control output |
| 42 | P70 | G7 | O | P | Id | — | Z | — | FLD Grid control output |
| 43 | P71 | G8 | O | P | Id | — | Z | — | FLD Grid control output |
| 44 | P72 | G9 | O | P | Id | — | Z | — | FLD Grid control output |
| 45 | P73 | G10 | O | P | Id | — | Z | — | FLD Grid control output |
| 46 | P74 | G11 | O | P | Id | — | Z | — | FLD Grid control output |
| 47 | P75 | G12 | O | P | Id | — | Z | — | FLD Grid control output |
| 48 | P76 | G13 | O | P | Id | — | Z | — | FLD Grid control output |

| Pin No. | Port Name | Symbol | I/O | Typ | Op | Det | Res | Ini | Function |
|---------|-----------|----------|-----|-----|-----|-----|-----|-----|--------------------------|
| 49 | P77 | G14 | I | — | Id | — | Z | — | FLD Grid control output |
| 50 | P80 | a1 | O | P | Id | — | Z | — | FLD Anode control output |
| 51 | P81 | a2 | O | P | Id | — | Z | — | FLD Anode control output |
| 52 | P82 | b | O | P | Id | — | Z | — | FLD Anode control output |
| 53 | P83 | c | O | P | Id | — | Z | — | FLD Anode control output |
| 54 | P84 | d2 | O | P | Id | — | Z | — | FLD Anode control output |
| 55 | P85 | d1 | O | P | Id | — | Z | — | FLD Anode control output |
| 56 | P66 | e | O | P | Id | — | Z | — | FLD Anode control output |
| 57 | P87 | f | O | P | Id | — | Z | — | FLD Anode control output |
| 58 | P90 | j | O | P | Id | — | Z | — | FLD Anode control output |
| 59 | P91 | k | O | P | Id | — | Z | — | FLD Anode control output |
| 60 | P92 | m | O | P | Id | — | Z | — | FLD Anode control output |
| 61 | P93 | n | O | P | Id | — | Z | — | FLD Anode control output |
| 62 | P94 | p | O | P | Id | — | Z | — | FLD Anode control output |
| 63 | P95 | r | O | P | Id | — | Z | — | FLD Anode control output |
| 64 | P96 | q | O | P | Id | — | Z | — | FLD Anode control output |
| 65 | P97 | h | O | P | Id | — | Z | — | FLD Anode control output |
| 66 | VKK | Vkk | — | — | — | — | — | — | FLD Drive battery |
| 67 | P40/KEY0 | Not Used | I | — | GND | — | Z | — | Connected to GND |
| 68 | P41/KEY1 | Not Used | I | — | GND | — | Z | — | Connected to GND |
| 69 | P42/KEY2 | Not Used | I | — | GND | — | Z | — | Connected to GND |
| 70 | P43/KEY3 | LW | I | — | — | Lv | Z | — | LW band setting (H: yes) |
| 71 | P44/KEY4 | Not Used | I | — | Eu | — | Z | — | Connected to GND |
| 72 | P45/KEY5 | Not Used | I | — | Eu | — | Z | — | Connected to GND |
| 73 | P46/CIN5 | KEY1 | I | — | Eu | Lv | Z | — | Key input |
| 74 | P47/CIN4 | KEY2 | I | — | Eu | Lv | Z | — | Key input |
| 75 | P50/CIN3 | KEY3 | I | — | Eu | Lv | Z | — | Key input |
| 76 | P51/CIN2 | KEY3 | I | — | Eu | Lv | Z | — | Key input |
| 77 | P52/CIN1 | VER. | I | — | Eu | Lv | Z | — | Destination setting |
| 78 | P53/CIN0 | VER. | I | — | Eu | Lv | Z | — | Specifications setting |
| 79 | P54 | MUTE | O | N | Eu | — | Z | H | Mute output (H: Mute) |
| 80 | P55/PMW | PRESET | O | — | Eu | — | Z | — | LED Drive output |

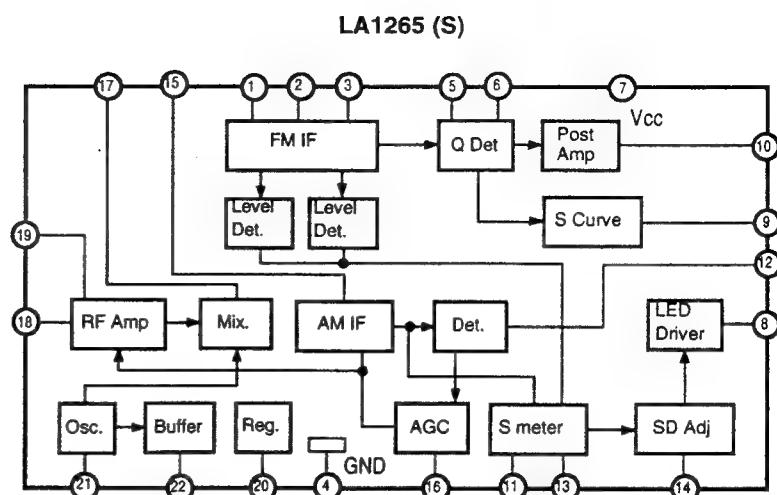
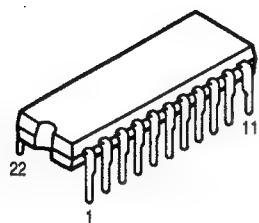
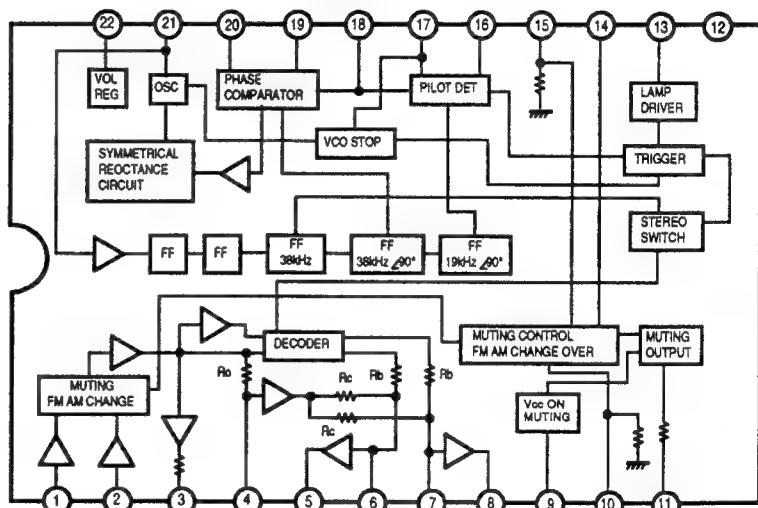
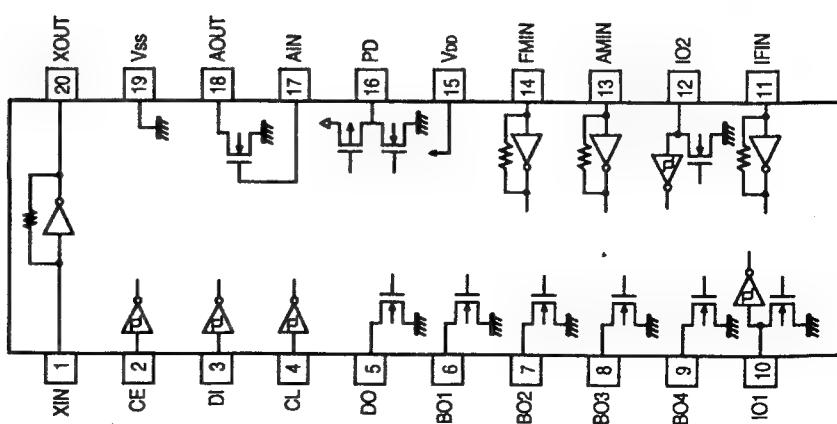
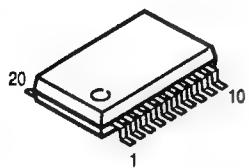
- NOTE:** Pin No. : Terminal number of microcomputer.
 Port Name : The name entered on the data sheet of microcomputer.
 Symbol : Symbolized interface function.
 I/O : Input or out of port.
 " I " = Input port
 " O " = Output port
 Type : Composition of port in case of output port.
 " C " = CMOS output
 " N " = NMOS open drain output
 " P " = PMOS open drain output
 OP : Pull up/Pull down selection information.
 " lu " = Inner microcomputer pull up
 " Id " = Inner microcomputer pull down
 " Eu " = External microcomputer pull up
 " Ed " = External microcomputer pull down
 Det : Indicates judging state of input port. Level detection is "LV"; Edge detection is "Ed"; Detection by both shifting is "E&L"; Serial data detection is "S" (Serial data output is also "S").
 Res : State at reset.
 " H " = Outputs High Level at reset
 " L " = Output Low Level at reset
 " Z " = Becomes High impedance mode at reset
 Ini : Initial output state.
 Function : Function and logical level explanation of signals to be interface.

LC72720NM**LC72720NM Terminal Function**

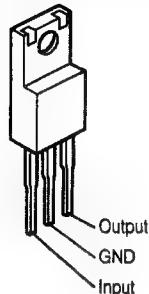
| Pin No. | Terminal | I/O | Function |
|---------|------------------------|------|--|
| 1 | VREF | O | Ref. voltage output (Vdda/2). |
| 2 | MPXIN | I | Base band (multiplex) signal input. |
| 3 | Vdda | — | Analog part power (+5V). |
| 4 | Vssa | — | Analog part GND. |
| 5 | FLOUT | O | Sub-carrier output (filter output). |
| 6 | CIN | I | Sub-carrier input (comparator input). |
| 7 | T1 | I | Test input (connect to GND). |
| 8 | T2 | I | Test input (standby cont.) 0: normal, 1: standby |
| 9 | T3 (RDCL) | I | Test I/O (RDS clock output). |
| 10 | T4 (RDDA) | I/O* | Test I/O (RDS data output). |
| 11 | T5 (RSFT) | I/O* | Test I/O (judge data output). |
| 12 | XOUT | O | X'tal osc. output (4.332/8.664 MHz). |
| 13 | XIN | I | X'tal osc. input (external ref. signal input). |
| 14 | Vddd | — | Digital part power (+5V). |
| 15 | Vssd | — | Digital GND. |
| 16 | T6 (ERROR/57K/BE1) | I/O* | Test I/O (error, play carrier, error block output). |
| 17 | T7 (CORREC/ARI-ID/BEO) | I/O* | Test I/O (error correct, SK detect, error block output). |
| 18 | SYNC | I/O* | Block sync. detect output. |
| 19 | RDS-ID | O | RDS detect output. |
| 20 | DO | O | Data output. |
| 21 | CL | I | Clock input. |
| 22 | DI | I | Data input. |
| 23 | CE | I | Chip enable. |
| 24 | SYR | I | sync. & RAM address reset (positive logic). |

* Normal output terminal, used in/out terminal at test (user setting impossible).

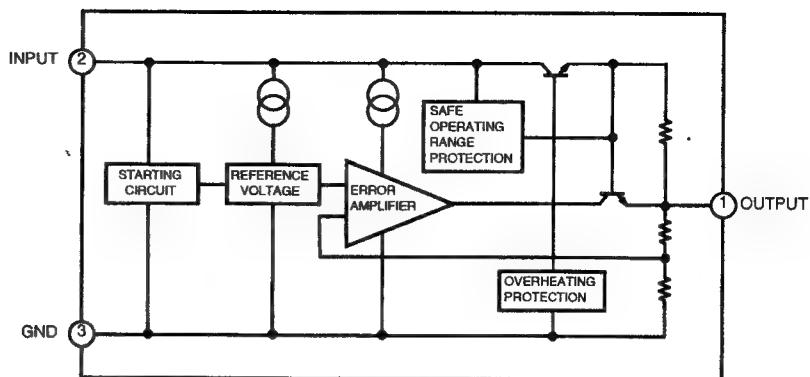
LA1265 (S) (IC101)
LA3401 (IC102)

**LA3401****LC72131M (IC104)**

**BA178M12 (IC106)
BA178M06 (IC107)**

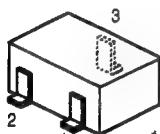


1: Output
2: GND
3: Input

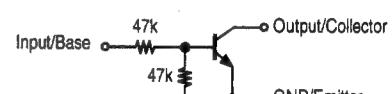
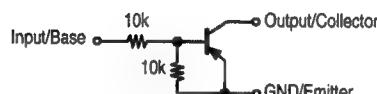


● TRANSISTORS

**DTA114EK
DTC144EK
DTC323TK**



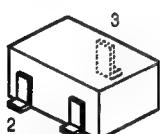
1: GND/Emitter
2: Input/Base
3: Output/Collector



DTC323TK

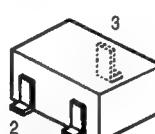


2SK211 (Y/GR)



1: Gate
2: Drain
3: Source

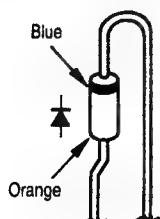
**2SB1197 (Q/R)
2SC2412 (S)
2SC2413 (Q)**



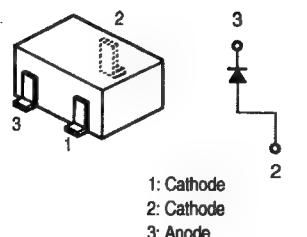
1: Emitter
2: Base
3: Collector

● DIODES

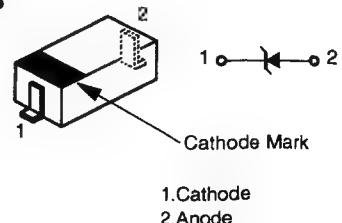
1SR35-200A



MA151A

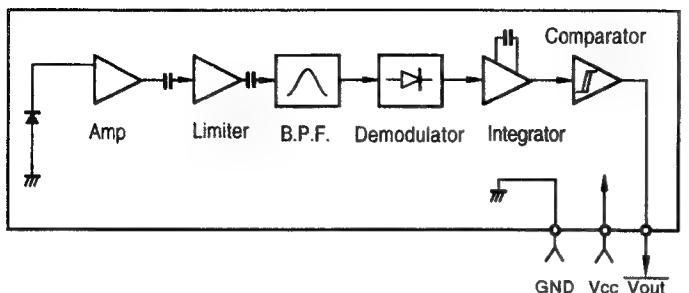
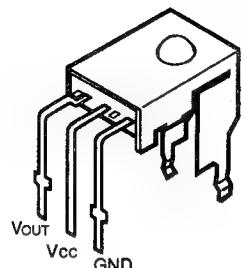


**UDZ3.3B
UDZ6.8B
UDZ12B**

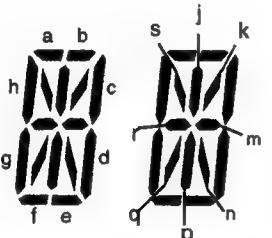
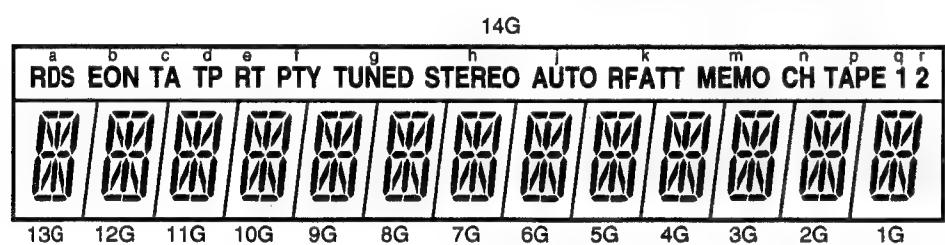
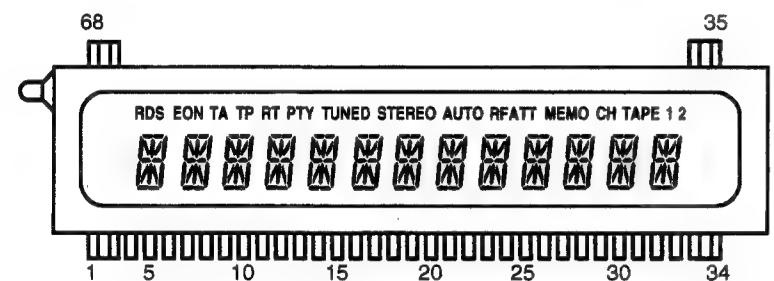


● REMOTE CONTROL SENSOR

GP1U271X (IC302)



● FLD (14-BF39GK)



TERMINAL CONNECTION

(UPPER)

| | | | | | | | | | | | | | | | | | |
|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| TERMINAL NO. | 68 | 67 | 66 | 65 | 64 | 63 | 62 | 61 | 60 | 59 | 58 | 57 | 56 | 55 | 54 | 53 | 52 |
| ELECTRODE | F1 | F1 | NP |
| TERMINAL NO. | 51 | 50 | 49 | 48 | 47 | 46 | 45 | 44 | 43 | 42 | 41 | 40 | 39 | 38 | 37 | 36 | 35 |
| ELECTRODE | F1 | F1 | NP |

(LOWER)

| | | | | | | | | | | | | | | | | | |
|--------------|----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|
| TERMINAL NO. | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
| ELECTRODE | F1 | 14G | 13G | 12G | 11G | 10G | 9G | 8G | 7G | 6G | 5G | 4G | 3G | 2G | 1G | F2 | F2 |
| TERMINAL NO. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| ELECTRODE | F1 | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |

Notes: F: Filament NP: NO. Pin

G: Grid

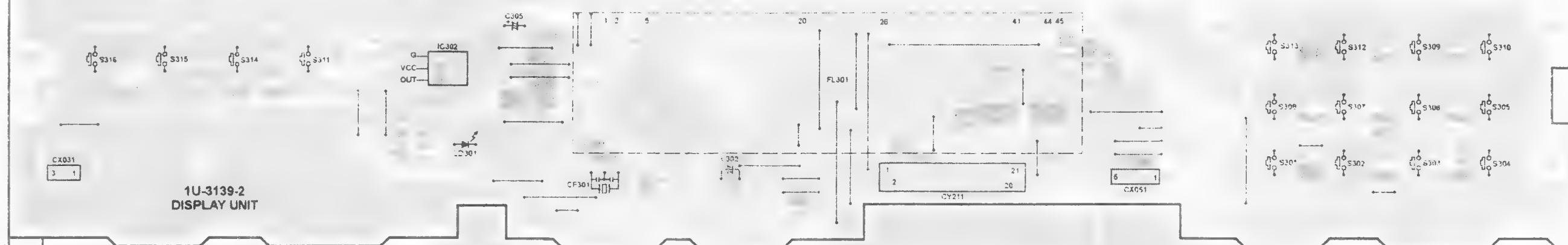
P: Anode

PRINTED WIRING BOARD

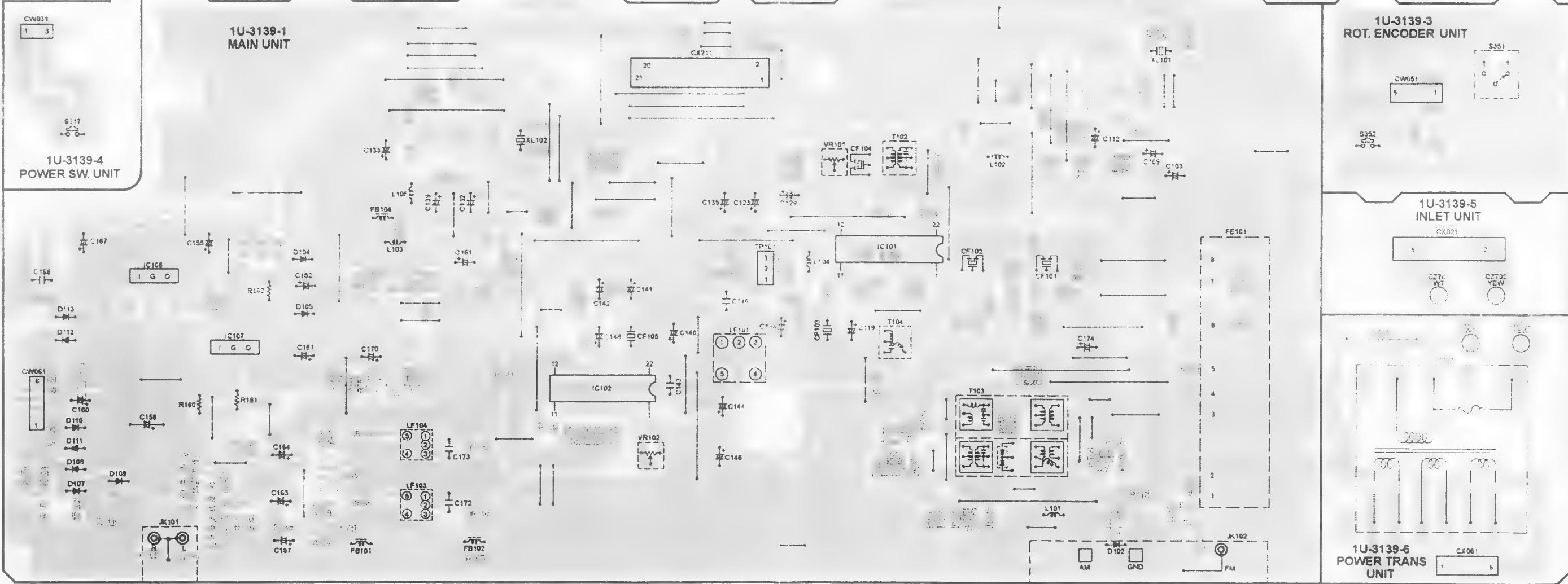
1 2 3 4 5 6 7 8

1U-3139

A



B



NOTE FOR PARTS LIST

- Part indicated with the mark "◎" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film ±5%, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:

Parts marked with this symbol have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

● Resistors

| Ex: RN 14K 2E 182 G FR | Type | Shape and performance | Power | Resistance | Allowable error | Others |
|------------------------|-----------|-----------------------|--------------------------|------------|-----------------|--------|
| RD : Carbon | 2B : 1/8W | F : ±1% | P : Pulse-resistant type | | | |
| RC : Composition | 2E : 1/4W | G : ±2% | NL : Low noise type | | | |
| RS : Metal oxide film | 2H : 1/2W | J : ±5% | NB : Non-burning type | | | |
| RW : Winding | 3A : 1W | K : ±10% | FR : Fuse-resistor | | | |
| RN : Metal film | 3D : 2W | M : ±20% | F : Lead wire forming | | | |
| RK : Metal mixture | 3F : 3W | | | | | |
| | 3H : 5W | | | | | |

* Resistance

1 8 2 → 1800 ohm = 1.8 kohm
Indicates number of zeros after effective number.
2-digit effective number.

• Units: ohm

1 R 2 → 1.2 ohm
1-digit effective number.
2-digit effective number, decimal point indicated by R.

• Units: ohm

● Capacitors

| Ex: CE 04W 1H 2R2 M BP | Type | Shape and performance | Dielectric strength | Capacity | Allowable error | Others |
|----------------------------------|-----------|-----------------------|---------------------|----------------------------------|-----------------|--------|
| CE : Aluminum foil electrolytic | 0J : 6.3V | F : ±1% | | HS : High stability type | | |
| CA : Aluminum solid electrolytic | 1A : 10V | G : ±2% | | BP : Non-polar type | | |
| CS : Tantalum electrolytic | 1C : 16V | J : ±5% | | HR : Ripple-resistant type | | |
| CQ : Film | 1E : 25V | K : ±10% | | DL : For charge and discharge | | |
| CK : Ceramic | 1V : 35V | M : ±20% | | HF : For assuring high frequency | | |
| CC : Ceramic | 1H : 50V | Z : +80% | | U : UL part | | |
| CP : Oil | 2A : 100V | -20% | | C : CSA part | | |
| CM : Mica | 2B : 125V | P : +100% | | W : UL-CSA type | | |
| CF : Metallized | 2C : 160V | -0% | | F : Lead wire forming | | |
| CH : Metallized | 2D : 200V | C : ±0.25pF | | | | |
| | 2E : 250V | D : ±0.5pF | | | | |
| | 2H : 500V | = : Others | | | | |
| | 2J : 630V | | | | | |

* Capacity (electrolyte only)

2 2 2 → 2200μF
Indicates number of zeros after effective number.
2-digit effective number.

• Units: μF

2 R 2 → 2.2μF
1-digit effective number.
2-digit effective number, decimal point indicated by R.

• Units: μF

* Capacity (except electrolyte)

2 2 2 → 2200pF=0.0022μF
(More than 2) — Indicates number of zeros after effective number.
2-digit effective number.

• Units: μF

2 2 1 → 220pF
(0 or 1) — Indicates number of zeros after effective number.
2-digit effective number.

• Units: pF

• When the dielectric strength is indicated in AC, "AC" is included after the dielectric strength value.

PARTS LIST OF P.W.B. UNIT**1U-3139 MAIN P.W.B. UNIT**

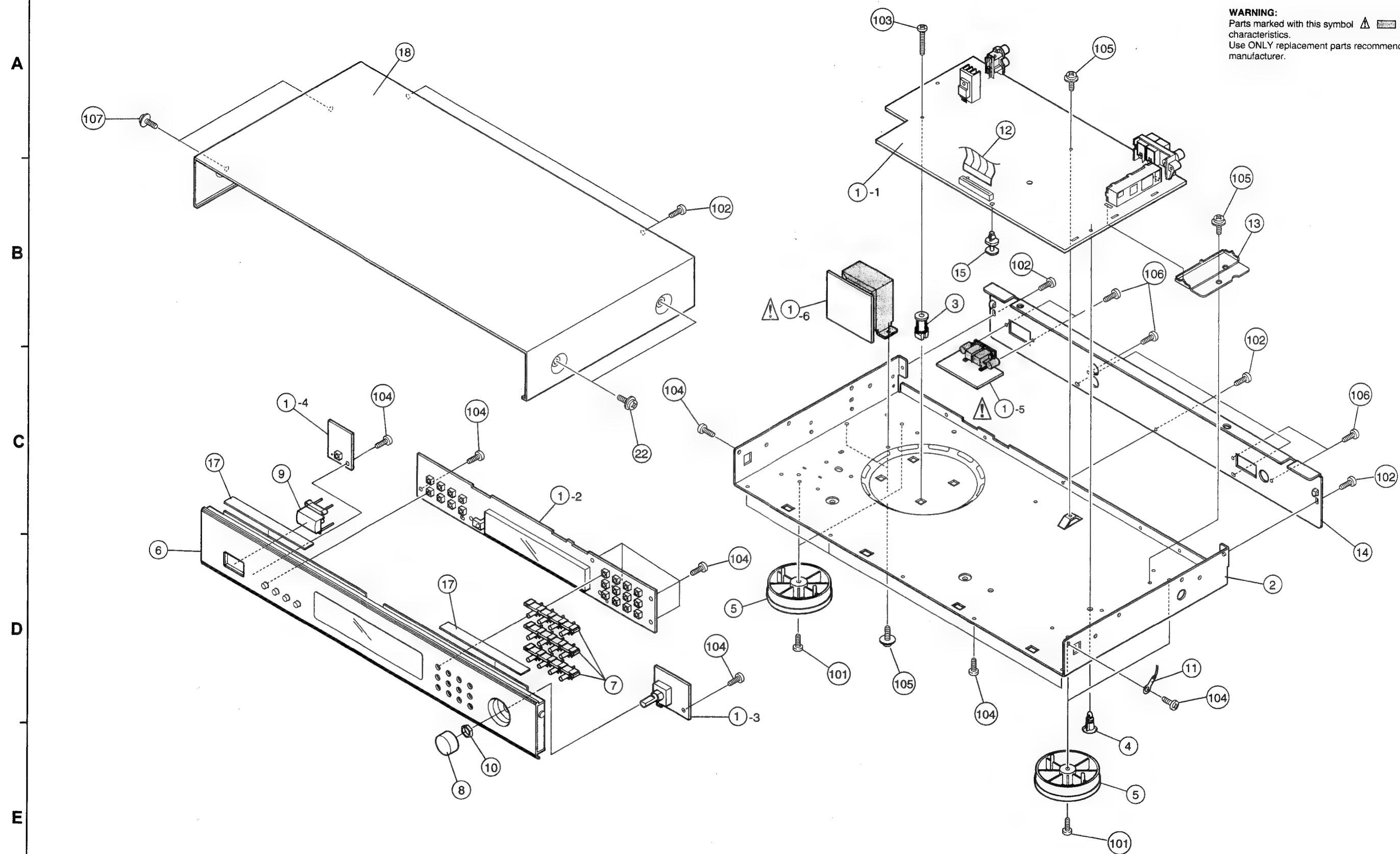
| Ref. No. | Part No. | Part Name | Remarks | Ref. No. | Part No. | Part Name | Remarks |
|-----------------------------|--------------|----------------------------|----------------|----------|--------------|----------------------------|-------------------------------|
| SEMICONDUCTORS GROUP | | | | | | | |
| IC101 | 263 0891 001 | IC LA1265(S) | | R107 | 247 0009 985 | Carbon chip 10 kohm 1/10W | RM73B--103J |
| IC102 | 263 0439 007 | IC LA3401 | | R108 | 247 0005 905 | Carbon chip 100 ohm 1/10W | RM73B--101J |
| IC103 | 263 0672 903 | IC BA4558F | | R111,112 | 247 0018 905 | Carbon chip 0 ohm 1/10W | RM73B--0R0K TU-235RD only |
| IC104 | 262 2450 900 | IC LC72131M-TLM | | R113 | 247 0008 944 | Carbon chip 2.7 kohm 1/10W | RM73B--272J |
| IC105 | 262 2547 907 | IC LC72720NM | | R114 | 247 0006 945 | Carbon chip 1 kohm 1/10W | RM73B--102J |
| IC106 | 263 1004 004 | IC BA178M12 | | R115 | 247 0006 920 | Carbon chip 330 ohm 1/10W | RM73B--331J |
| IC107 | 263 1010 001 | IC BA178M06 | | R117 | 247 0005 989 | Carbon chip 220 ohm 1/10W | RM73B--221J |
| IC301 | 262 2527 008 | IC TMP87CM71F-6754 | | R118 | 247 0006 920 | Carbon chip 330 kohm 1/10W | RM73B--331J |
| IC302 | 499 0290 007 | Remocon sensor GP1U271X | | R119 | 247 0006 962 | Carbon chip 470 ohm 1/10W | RM73B--471J |
| TR101 | 269 0083 901 | Transistor DTA114EK | | R120 | 247 0011 902 | Carbon chip 33 kohm 1/10W | RM73B--333J TU-260LII only |
| TR102 | 275 0074 902 | FET 2SK211-Y/GR | | R122 | 247 0011 902 | Carbon chip 33 kohm 1/10W | RM73B--333J TU-260LII only |
| TR120,121 | 269 0054 901 | Transistor DTC144EK | | R124 | 247 0010 929 | Carbon chip 15 kohm 1/10W | RM73B--153J TU-260LII only |
| TR103 | 273 0438 908 | Transistor 2SC2413K(Q) | | R126 | 247 0010 929 | Carbon chip 15 kohm 1/10W | RM73B--153J TU-260LII only |
| TR104 | 269 0054 901 | Transistor DTC144EK | | R129 | 247 | Carbon chip 2.4 kohm 1/10W | RM73B--242J |
| TR105-108 | 269 0066 902 | Transistor DTC323TK | | R130 | 247 0006 920 | Carbon chip 330 ohm 1/10W | RM73B--331J |
| TR109 | 269 0083 901 | Transistor DTA114EK | | R131 | 247 | Carbon chip 750 kohm 1/10W | RM73B--751J |
| TR110,111 | 269 0054 901 | Transistor DTC144EK | | R132 | 247 0010 929 | Carbon chip 15 kohm 1/10W | RM73B--153J |
| TR112-115 | 273 0384 900 | Transistor 2SC2412K(S) | TU-260LII only | R133-135 | 247 0009 927 | Carbon chip 5.6 kohm 1/10W | RM73B--562J |
| TR116,117 | 269 0083 901 | Transistor DTA114EK | | R136 | 247 0005 905 | Carbon chip 100 ohm 1/10W | RM73B--101J |
| TR118 | 272 0153 905 | Transistor 2SB1197K(Q/R) | | R137 | 247 0011 928 | Carbon chip 39 kohm 1/10W | RM73B--393J |
| TR119 | 269 0054 901 | Transistor DTC144EK | | R138 | 247 0009 985 | Carbon chip 10 kohm 1/10W | RM73B--103J |
| TR122 | 273 0384 900 | Transistor 2SC2412K(S) | | R139 | 247 0009 901 | Carbon chip 4.7 kohm 1/10W | RM73B--472J |
| TR301 | 269 0083 901 | Transistor DTA114EK | | R140 | 247 0011 986 | Carbon chip 68 kohm 1/10W | RM73B--683J |
| TR302 | 269 0054 901 | Transistor DTC144EK | | R141 | 247 0009 985 | Carbon chip 10 kohm 1/10W | RM73B--103J |
| TR303 | 269 0083 901 | Transistor DTA114EK | | R143 | 247 0008 944 | Carbon chip 2.7 kohm 1/10W | RM73B--272J |
| D101 | 276 0438 910 | Diode MA151A | | R144 | 247 0009 985 | Carbon chip 10 kohm 1/10W | RM73B--103J |
| D104,105 | 276 0553 905 | Diode 1SR35-200A | | R145 | 247 0008 960 | Carbon chip 3.3 kohm 1/10W | RM73B--332J |
| D106 | 276 0438 910 | Diode MA151A | | R146 | 247 0009 985 | Carbon chip 10 kohm 1/10W | RM73B--103J |
| D107-112 | 276 0553 905 | Diode 1SR35-200A | | R147 | 247 0009 927 | Carbon chip 5.6 kohm 1/10W | RM73B--562J |
| D114,115 | 276 0438 910 | Diode MA151A | | R149 | 247 0012 927 | Carbon chip 100 kohm 1/10W | RM73B--104J |
| D152 | 276 0438 910 | Diode MA151A | | R150 | 247 0011 915 | Carbon chip 36 kohm 1/10W | RM73B--363J |
| D301 | 276 0438 910 | Diode MA151A | | R151,152 | 247 0012 927 | Carbon chip 100 kohm 1/10W | RM73B--104J |
| ZD101 | 276 0686 908 | Zener diode UDV3.3B | 3.3V | R153,154 | 247 0012 998 | Carbon chip 200 kohm 1/10W | RM73B--204J |
| ZD102,103 | 276 0694 932 | Zener diode UDV6.8B | 6.8V | R155 | 247 0007 987 | Carbon chip 1.5 kohm 1/10W | RM73B--152J |
| LD301 | 393 9502 906 | LED SEL4214R | | R156 | 247 0009 927 | Carbon chip 5.6 kohm 1/10W | RM73B--562J |
| FL301 | 393 8020 007 | VFD (14-BT-39GK) | | R157 | 247 0013 900 | Carbon chip 220 kohm 1/10W | RM73B--224J |
| RESISTORS GROUP | | | | | | | |
| R101 | 247 0002 966 | Carbon chip 10 ohm 1/10W | RM73B--101J | R158,159 | 247 0008 928 | Carbon chip 2.2 kohm 1/10W | RM73B--222J |
| R102,103 | 247 0007 945 | Carbon chip 1 kohm 1/10W | RM73B--102J | R160,161 | 244 2055 970 | Metal oxide 56 ohm 1W | RS14B3A560JNBS(S) |
| R104 | 247 0012 927 | Carbon chip 100 kohm 1/10W | RM73B--104J | R162 | 244 2055 938 | Metal oxide 6.8 ohm 1W | RS14B3A6R8JNBS(S) |
| R105 | 247 0007 945 | Carbon chip 1 kohm 1/10W | RM73B--102J | R163 | 247 0009 985 | Carbon chip 10 kohm 1/10W | RM73B--103J |
| R106 | 247 0009 927 | Carbon chip 5.6 kohm 1/10W | RM73B--562J | R164 | 247 0010 916 | Carbon chip 13 kohm 1/10W | RM73B--133J |
| | | | | R165 | 247 0009 901 | Carbon chip 4.7 kohm 1/10W | RM73B--472J |
| | | | | R166 | 247 0009 985 | Carbon chip 10 kohm 1/10W | RM73B--103J |
| | | | | R168 | 247 0009 901 | Carbon chip 4.7 kohm 1/10W | RM73B--472J |
| | | | | R169 | 247 0012 927 | Carbon chip 100 kohm 1/10W | RM73B--104J |
| | | | | R170 | 247 0007 945 | Carbon chip 1 kohm 1/10W | RM73B--102J |
| | | | | R171 | 247 0009 901 | Carbon chip 4.7 kohm 1/10W | RM73B--472J |
| | | | | R172 | 247 0007 945 | Carbon chip 1 kohm 1/10W | RM73B--102J |

| Ref. No. | Part No. | Part Name | Remarks | Ref. No. | Part No. | Part Name | Remarks |
|-------------------------|--------------|-----------------------------|---------------------|----------|--------------|---------------------------|---------------------|
| R173 | 247 0009 956 | Carbon chip 7.5 kohm 1/10W | RM73B-752J | C107 | 257 0012 966 | Ceramic chip 0.01 μF/50V | CK73F1H103Z |
| R174,175 | 247 0011 944 | Carbon chip 47 kohm 1/10W | RM73B-473J | C108 | 257 0010 900 | Ceramic chip 0.01 μF/50V | CK73B1H103K |
| R176 | 247 0009 956 | Carbon chip 7.5 kohm 1/10W | RM73B-752J | C109 | 254 4524 943 | Electrolytic 1 μF/50V | CE04W1H010M SMG/RE3 |
| R177 | 247 0009 985 | Carbon chip 10 kohm 1/10W | RM73B-103J | C110 | 257 0004 961 | Ceramic chip 100 pF/50V | CC73SL1H101J |
| R178 | 247 0010 958 | Carbon chip 20 kohm 1/10W | RM73B-203J | C111 | 257 0012 966 | Ceramic chip 0.01 μF/50V | CK73F1H103Z |
| R179 | 247 0009 901 | Carbon chip 4.7 kohm 1/10W | RM73B-472J | C112 | 254 4524 943 | Electrolytic 1 μF/50V | CE04W1H010M SMG/RE3 |
| R180-183 | 247 0004 906 | Carbon chip 39 ohm 1/10W | RM73B-390J | C113 | 257 0012 966 | Ceramic chip 0.01 μF/50V | CK73F1H103Z |
| R184 | 247 0010 961 | Carbon chip 22 kohm 1/10W | RM73B-223J | C114 | 257 0013 907 | Ceramic chip 0.047μF/50V | CK73F1H473Z |
| R186 | 247 0012 985 | Carbon chip 180 kohm 1/10W | RM73B-184J | | | TU-260LII only | |
| R187 | 247 0009 927 | Carbon chip 5.6 kohm 1/10W | RM73B-562J | C115-117 | 257 0012 966 | Ceramic chip 0.01 mF/50V | CK73F1H103Z |
| R188 | 247 0018 905 | Carbon chip 0 kohm 1/10W | RM73B-0R0K | C118 | 257 0014 935 | Ceramic chip 0.1 mF/25V | CK73F1E104Z |
| | | | TU-260LII only | C119 | 254 4524 927 | Electrolytic 0.33 μF/50V | CE04W1HR33M SMG/RE3 |
| R189 | 247 0007 945 | Carbon chip 1 kohm 1/10W | RM73B-102J | C120,121 | 257 0012 966 | Ceramic chip 0.01 μF/50V | CK73F1H103Z |
| | | | TU-260LII only | C122 | 257 0009 924 | Ceramic chip 2200 pF/50V | CK73B1H222K |
| R191-193 | 247 0018 905 | Carbon chip 0 ohm 1/10W | RM73B-0R0K | C123 | 254 4524 930 | Electrolytic 0.47 μF/50V | CE04W1HR47M SMG/RE3 |
| R194,195 | 247 0002 966 | Carbon chip 10 ohm 1/10W | RM73B-100J | C124 | 257 0004 961 | Ceramic chip 100 pF/50V | CC73SL1H101J |
| R301 | 247 0006 920 | Carbon chip 330 ohm 1/10W | RM73B-331J | C125 | 257 0012 966 | Ceramic chip 0.01 μF/50V | CK73F1H103Z |
| R302-312 | 247 0005 905 | Carbon chip 100 ohm 1/10W | RM73B-101J | C129 | 254 4524 943 | Electrolytic 1 μF/50V | CE04W1H010M SMG/RE3 |
| R313 | 247 0009 985 | Carbon chip 10 kohm 1/10W | RM73B-103J | C130 | 257 0012 982 | Ceramic chip 0.022 μF/50V | CK73F1H223Z |
| | | | | C131 | 257 0006 943 | Ceramic chip 560 pF/50V | CC73SL1H561J |
| R315,316 | 247 0009 985 | Carbon chip 10 kohm 1/10W | RM73B-103J | C132 | 254 4524 943 | Electrolytic 1 μF/50V | CE04W1H010M SMG/RE3 |
| R317 | 247 0010 958 | Carbon chip 20 kohm 1/10W | RM73B-203J | C133 | 254 4522 916 | Electrolytic 10 μF/35V | CE04W1V100M SMG/RE3 |
| R320 | 247 0018 905 | Carbon chip 0 kohm 1/10W | RM73B-0R0K | C134 | 254 4522 929 | Electrolytic 22 μF/35V | CE04W1V220M SMG/RE3 |
| | | | TU-260LII only | C135 | 254 4522 916 | Electrolytic 10 μF/35V | CE04W1V100M SMG/RE3 |
| R321 | 247 0018 905 | Carbon chip 0 ohm 1/10W | RM73B-0R0K | C136 | 257 0004 961 | Ceramic chip 100 pF/50V | CC73SL1H101J |
| | | | TU-235RD only | C137,138 | 257 0003 904 | Ceramic chip 22 pF/50V | CC73SL1H220J |
| R322,323 | 247 0007 945 | Carbon chip 1 kohm 1/10W | RM73B-102J | C139 | 254 4524 943 | Electrolytic 1 μF/50V | CE04W1H010M SMG/RE3 |
| R324,325 | 247 0005 976 | Carbon chip 200 ohm 1/10W | RM73B-201J | C140 | 254 4522 916 | Electrolytic 10 μF/35V | CE04W1H100M SMG/RE3 |
| R326,327 | 247 0006 917 | Carbon chip 300 ohm 1/10W | RM73B-301J | C141 | 254 4524 943 | Electrolytic 1 μF/50V | CE04W1H010M SMG/RE3 |
| R328,329 | 247 0006 975 | Carbon chip 510 ohm 1/10W | RM73B-511J | C142 | 254 4524 914 | Electrolytic 2.2 μF/50V | CE04W1HR22M SMG/RE3 |
| R330,331 | 247 0007 945 | Carbon chip 1 kohm 1/10W | RM73B-102J | C143 | 256 1058 939 | Metalized 0.047 μF/50V | CF93A1H473J (JL) |
| R332 | 247 0008 957 | Carbon chip 3 kohm 1/10W | RM73B-302J | C144 | 254 4522 929 | Electrolytic 22 μF/35V | CE04W1V220M SMG/RE3 |
| R333 | 247 0011 960 | Carbon chip 56 kohm 1/10W | RM73B-563J | C145 | 256 1058 942 | Metalized 0.056 μF/50V | CF93A1H563J (JL) |
| R334 | 247 0007 945 | Carbon chip 1 kohm 1/10W | RM73B-102J | C146 | 254 4522 916 | Electrolytic 10 μF/35V | CE04W1V100M SMG/RE3 |
| R335 | 247 0005 976 | Carbon chip 200 ohm 1/10W | RM73B-201J | C147 | 257 0012 966 | Ceramic chip 0.01 μF/50V | CK73F1H103Z |
| R336 | 247 0006 917 | Carbon chip 300 ohm 1/10W | RM73B-301J | C148 | 254 4524 943 | Electrolytic 1 μF/50V | CE04W1H010M SMG/RE3 |
| R337 | 247 0006 975 | Carbon chip 510 ohm 1/10W | RM73B-511J | C149,150 | 257 0006 930 | Ceramic chip 510 pF/50V | CC73SL1H511J |
| R338,339 | 247 0007 945 | Carbon chip 1 kohm 1/10W | RM73B-102J | C151 | 254 4327 904 | Electrolytic 1000 μF/6.3V | CE04W0J102M(SMG) |
| R340 | 247 0005 976 | Carbon chip 200 ohm 1/10W | RM73B-201J | C152 | 254 4522 916 | Electrolytic 10 μF/35V | CE04W1V100M SMG/RE3 |
| R341 | 247 0006 917 | Carbon chip 300 ohm 1/10W | RM73B-301J | C155 | 254 4522 916 | Electrolytic 10 μF/35V | CE04W1V100M SMG/RE3 |
| R342 | 247 0006 975 | Carbon chip 510 ohm 1/10W | RM73B-511J | C156 | 254 4428 706 | Electrolytic 2200 μF/35V | CE04W1V222MC(SMG) |
| R351,352 | 247 0011 944 | Carbon chip 47 kohm 1/10W | RM73B-473J | C157 | 254 4522 945 | Electrolytic 47 μF/35V | CE04W1V470M SMG/RE3 |
| VR101 | 211 6093 941 | Semi fixed resistor 10 kohm | V06PB103 | C158,159 | 257 0012 966 | Ceramic chip 0.01 μF/50V | CK73F1H103Z |
| VR102 | 211 6093 967 | Semi fixed resistor 47 kohm | V06PB473 | C160 | 254 4524 943 | Electrolytic 1 μF/50V | CE04W1H010M SMG/RE3 |
| CAPACITORS GROUP | | | | C161 | 254 4524 972 | Electrolytic 4.7 μF/50V | CE04W1HAR7M SMG/RE3 |
| C101 | 257 0008 983 | Ceramic chip 1000 pF/50V | CK73B1H102K | C162 | 257 0012 966 | Ceramic chip 0.01 μF/50V | CK73F1H103Z |
| C102 | 257 0002 947 | Ceramic chip 12 pF/50V | CC73SL1H120J | C163,164 | 254 4522 916 | Electrolytic 10 μF/35V | CE04W1V100M SMG/RE3 |
| C103 | 254 4522 945 | Electrolytic 47 μF/35V | CE04W1V470M SMG/RE3 | C165 | 257 0012 966 | Ceramic chip 0.01 μF/50V | CK73F1H103Z |
| C104 | 257 0012 966 | Ceramic chip 0.01 μF/50V | CK73F1H103Z | C166 | 256 1058 971 | Metalized 0.1 μF/50V | CF93A1H104J (JL) |
| C105,106 | 257 0002 963 | Ceramic chip 15 pF/50V | CC73SL1H150J | C167 | 254 4525 926 | Electrolytic 100 μF/50V | CE04W1H101M SMG/RE3 |

| Ref. No. | Part No. | Part Name | Remarks | Ref. No. | Part No. | Part Name | Remarks | Ref. No. | Part No. | Part Name | Remarks | Q'ty |
|----------|--------------|--------------------------|----------------|----------|--------------|--------------------------|---------------------|-----------|--------------|--------------------|---------|------|
| C172,173 | 255 1264 979 | Mylar film 3900 pF/50V | CQ93M1H392J(B) | C174 | 254 4522 916 | Electrolytic 10 μF/35V | CE04W1V100M SMG/RE3 | LF101 | 232 0159 008 | Anti birdie filter | | 1 |
| C175 | 257 0013 907 | Ceramic chip 0.047μF/50V | CK73F1H473Z | | | | | LF103,104 | 232 0191 008 | MPX LPF | | 2 |
| C177 | 257 0012 966 | Ceramic chip 0.01 μF/50V | CK73F1H103Z | S301~317 | 212 5604 910 | Tact switch -TA (ALPS) | | S351 | 212 0399 000 | Rotary encoder | | 17 |
| C178,179 | 257 0008 983 | Ceramic chip 1000 pF/50V | CK73B1H102K | S352 | 212 5604 910 | Tact switch -TA (ALPS) | | | | | | 1 |
| C182 | 257 0008 983 | Ceramic chip 1000 pF/50V | CK73B1H102K | C184-188 | 257 0008 983 | Ceramic chip 1000 pF/50V | CK73B1H102K | △T101 | 233 6164 003 | Power trans. | | 1 |
| C184-188 | 257 0008 983 | Ceramic chip 1000 pF/50V | CK73B1H102K | C301 | 257 0014 935 | Ceramic chip 0.1 μF/25V | CK73F1E104Z | T102 | 231 1138 009 | AM IFT | | 1 |
| C301 | 257 0014 935 | Ceramic chip 0.1 μF/25V | CK73F1E104Z | T103</ | | | | | | | | |

EXPLODED VIEW

1 2 3 4 5 6 7 8



PARTS LIST OF EXPLODED VIEW

| Ref. No. | Part No. | Part Name | Remarks | Q'ty | Ref. No. | Part No. | Part Name | Remarks | Q'ty |
|----------------------------------|--------------|-------------------------|-------------------------|------|----------|--------------|---------------------------|-------------------------|------|
| 1 | 1U-3139 | Main P.W.B. unit ass'y | | 1 | 207 | 515 0671 627 | Service station list (EX) | | 1 |
| 1-1 | — | Tuner unit | | | 208 | 505 0131 050 | Cabinet cover | | 1 |
| 1-2 | — | Display unit | | | 209 | 503 1284 007 | Cushion | | 2 |
| 1-3 | — | Rotary encoder. unit | | | 210 | 501 2031 004 | Carton case | | 1 |
| 1-4 | — | Power switch unit | | | | 501 2031 017 | Carton case | TU-260LII only | 1 |
| 1-5 | — | Inlet unit | | | 211 | 513 1389 006 | Control card base | | 1 |
| 1-6 | — | Power trans unit | | | 212 | 513 1349 004 | Thermal carbon film | | 1 |
| 2 | 411 0942 902 | Chassis | | 1 | 213 | 517 1378 006 | E2 POS label | Black Model | 1 |
| 3 | 412 2762 002 | P.W.B. holder | | 1 | | 517 1378 019 | E2 POS label | Gold Model | 1 |
| 4 | 412 2741 007 | P.W.B. holder (H=8) | | 1 | | 517 1338 088 | EK POS label | Black Model (TU-260LII) | 2 |
| 5 | 104 0208 308 | Foot ass'y | | 4 | 214 | 513 9111 001 | Color label | Gold Model only | 1 |
| 6 | 144 2620 209 | Front panel ass'y | Black Model (TU-235RD) | 1 | 215 | 502 0898 022 | PAD | TU-260LII only | 2 |
| | 144 2620 212 | Front panel ass'y | Gold Model (TU-235RD) | 1 | | | | | |
| | 144 2620 322 | Front panel ass'y | Black Model (TU-260LII) | | | | | | |
| 7 | 113 1838 111 | Tact knob (4) | Black Model | 3 | | | | | |
| | 113 1838 108 | Tact knob (4) | Gold Model | 3 | | | | | |
| 8 | 112 0806 002 | Knob ass'y | Black Model | 1 | | | | | |
| | 112 0806 015 | Knob ass'y | Gold Model | 1 | | | | | |
| 9 | 113 1292 207 | Push knob (P) | Black Model | 1 | | | | | |
| | 113 1292 210 | Push knob (P) | Gold Model | 1 | | | | | |
| 10 | — | 9 nut | | | | | | | |
| 11 | 203 0458 015 | 1P contact ass'y | | 1 | | | | | |
| 12 | 009 0113 004 | 21P FFC cable | | 1 | | | | | |
| 13 | 414 0839 001 | Shield cover | | 1 | | | | | |
| 14 | 105 1293 001 | Back panel | TU-235RD | 1 | | | | | |
| | 105 1293 014 | Back panel | TU-260LII | | | | | | |
| 15 | 412 2814 002 | Card spacer (L=8) | | 1 | | | | | |
| 16 | — | — | | | | | | | |
| 17 | 461 0577 000 | Rubber sheet | | 2 | | | | | |
| 18 | 102 0413 207 | Top cover | Black Model | 1 | | | | | |
| | 102 0413 210 | Top cover | Gold Model | 1 | | | | | |
| SCREWS | | | | | | | | | |
| 101 | 473 7002 018 | Screw 3 x 8 CBTS(S)-Z | | 4 | | | | | |
| 102 | 473 7015 018 | Screw 3 x 8 CBTS(S)-B | | 7 | | | | | |
| 103 | 473 7501 030 | Screw 3 x 20 CBTS (P)-Z | | 1 | | | | | |
| 104 | 473 7508 017 | Screw 3 x 10 CBTS(P)-B | | 15 | | | | | |
| 105 | 473 8007 025 | Cup screw 3 x 8 | | 4 | | | | | |
| 106 | 477 0064 107 | Fixing screw | | 5 | | | | | |
| 107 | 477 0263 005 | 3P. swelling screw | Black Model | 4 | | | | | |
| | 477 0263 018 | 3P. swelling screw | Gold Model | 4 | | | | | |
| PACKING & ACCESSORIES | | | | | | | | | |
| 201 | 505 0283 018 | Poly. cover | | 1 | | | | | |
| 202 | 511 3329 000 | Instruction manual | | 1 | | | | | |
| 203 | 203 2310 009 | 2P pin cord | | 1 | | | | | |
| 204 | 231 0922 009 | Loop antenna | | 1 | | | | | |
| 205 | 395 0023 008 | FM antenna ass'y | | 1 | | | | | |
| Δ | 206 2108 003 | AC cord with plug | | 1 | | | | | |
| Δ | 206 2113 001 | AC cord with plug | (TU-260LII) | 1 | | | | | |

MEMO

SCHEMATIC DIAGRAM

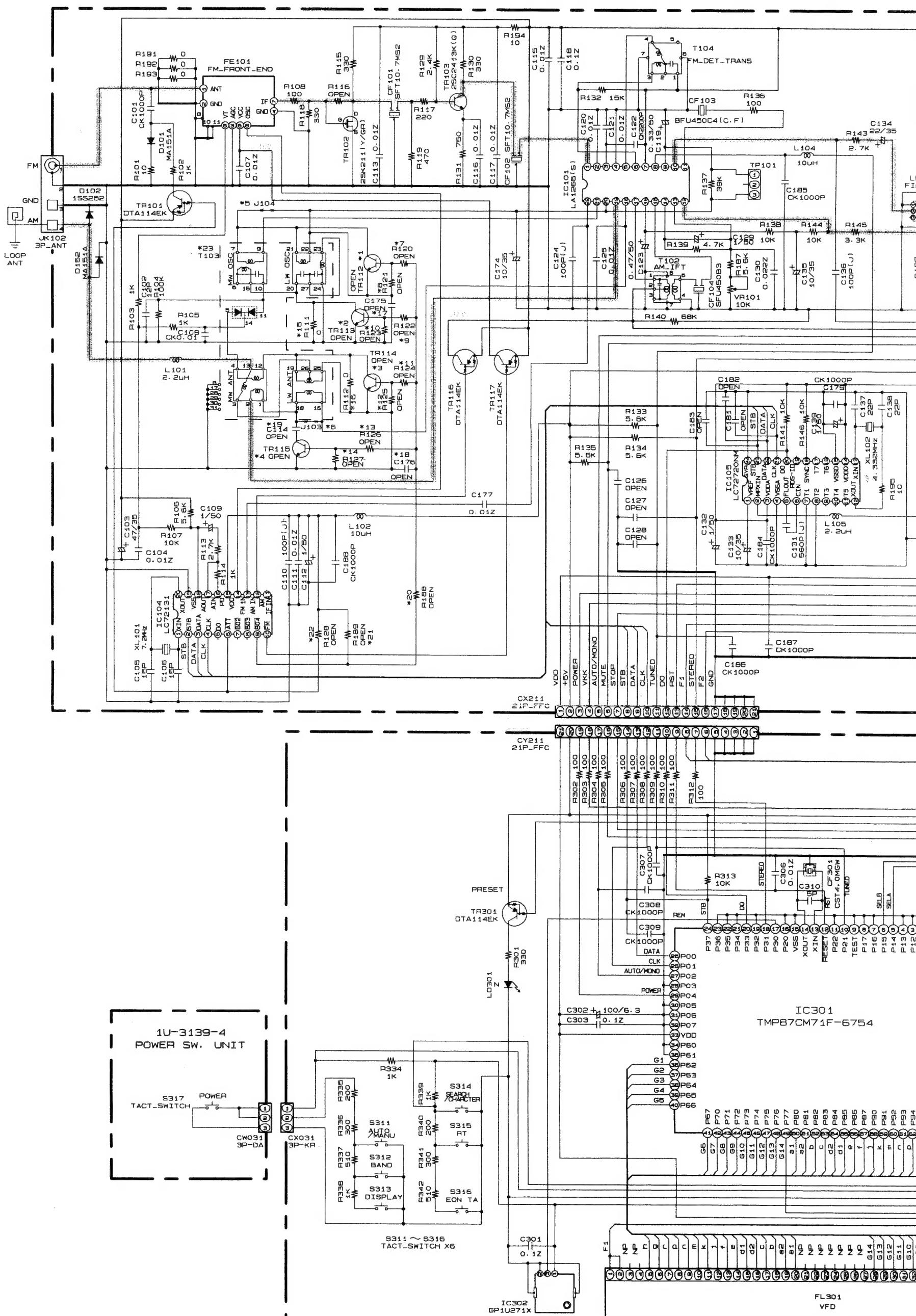
1

2

3

4

5



7

8

9

10

11

A

B

C

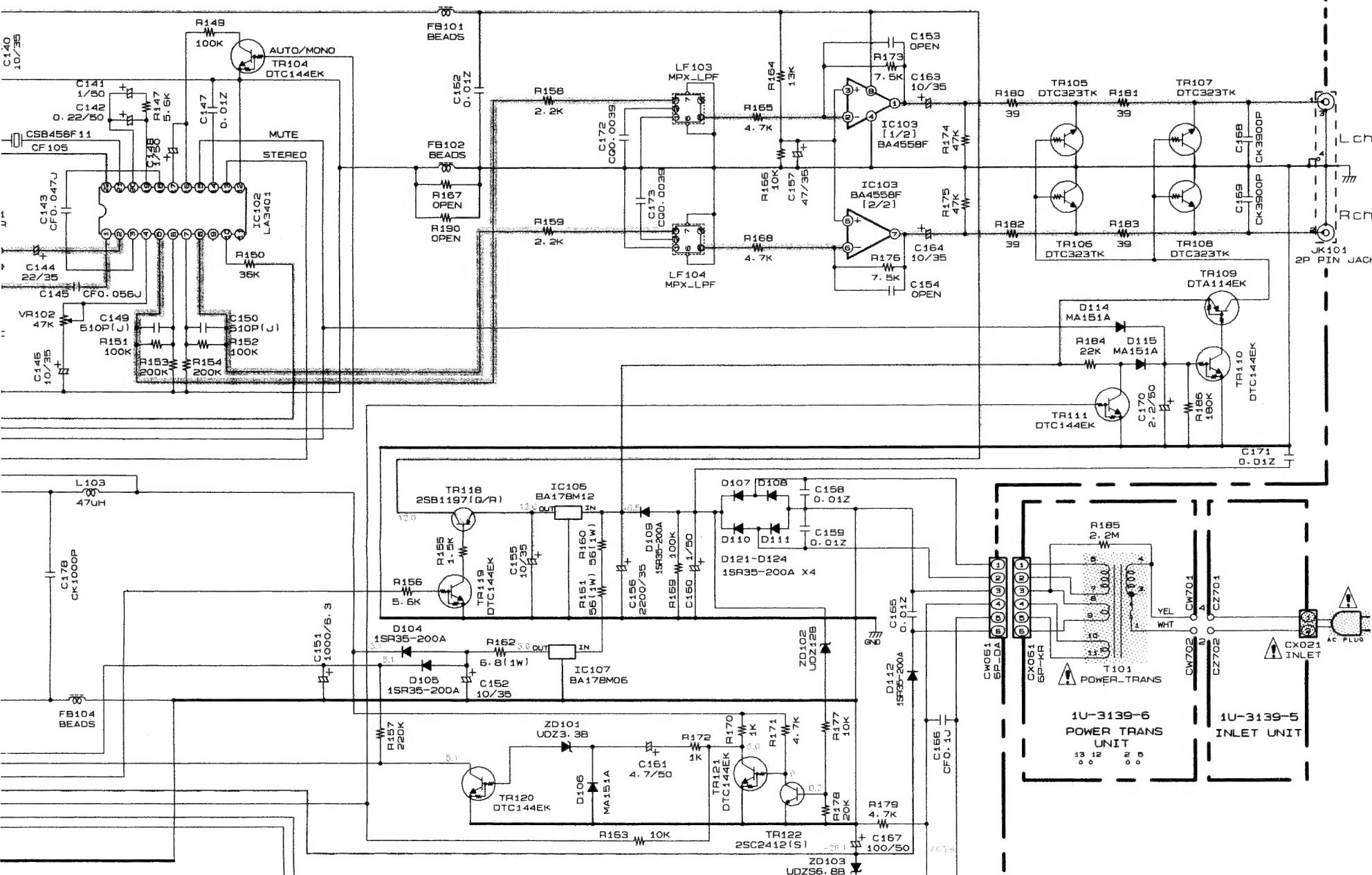
D

E

F

G

H

1U-3139-1
MAIN UNIT

| | TU-235RD | TU-260LII |
|----------|------------------|---------------------|
| *1 TR112 | --- | 2SC2412(S) |
| *2 TR113 | --- | 2SC2412(S) |
| *3 TR114 | --- | 2SC2412(S) |
| *4 TR115 | --- | 2SC2412(S) |
| *5 J104 | JUMPER | --- |
| *6 J103 | JUMPER | --- |
| *7 R120 | --- | 33K |
| *8 R121 | --- | --- |
| *9 R122 | --- | 33K |
| *10 R123 | --- | --- |
| *11 R124 | --- | 15K |
| *12 R125 | --- | --- |
| *13 R126 | --- | 15K |
| *14 R127 | --- | --- |
| *15 R111 | 0 | --- |
| *16 R112 | 0 | --- |
| *17 C175 | --- | 0.047 |
| *18 C176 | --- | --- |
| *19 C114 | --- | 0.047 |
| *20 R188 | --- | 0 |
| *21 R189 | --- | 1K |
| *22 R128 | --- | --- |
| *23 T103 | MW ANT -OSC COIL | MW/LW ANT -OSC COIL |
| *24 R320 | --- | 0 |
| *25 R321 | 0 | --- |

+B LINE

-B LINE

SIGNAL LINE

Voltage at 1K no signal

Voltage at 1K

